



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

MAY 21 2008

Ms. Tamara Murphy  
Product Registration  
Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, NC 27419

SUBJECT: Application for Pesticide Notification (PRN 98-10)  
Request General Label Change  
EPA Reg. No. 100-1307  
Application Dated April 17, 2008

Dear Registrant:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 04/17/08 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" received but not reviewed and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

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Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, NC 27419-8300  
www.syngenta.com



**FEDERAL EXPRESS**

April 17, 2008

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202

Attention: Ms. Joanne Miller - PM 23

Dear Ms. Miller:

**SUBJECT: ORION™ HERBICIDE  
EPA REG. NO. 100-1307  
NOTIFICATION OF LABEL CHANGE**

Per the provisions of PR Notice 98-10, Syngenta Crop Protection, Inc. is providing a Notification of label change for Orion Herbicide.

- The following revision was made: Crop Rotational Intervals-"field pea" revised to "pea (dry and succulent)".

Orion Herbicide is a "me-too" registration of Dow's GF-1727 Herbicide, EPA Registration No. 62719-562, which was approved by EPA February 13, 2008. This change corresponds with the notification letter sent to you by Dow AgroSciences LLC dated April 16, 2008.

In support of this notification, enclosed are the following:

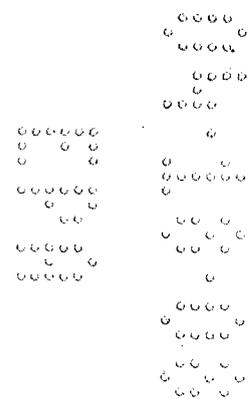
- Three copies of the revised Orion label, with change highlighted
- Completed EPA Registration Application Form 8570-1
- One copy of Letter of Notification from Dow AgroSciences

Thank you for your assistance in this matter. If you have any questions, please do not hesitate to contact me at (336) 632-2409 or at my mobile phone (336) 906-4324.

Sincerely,

Tamara Murphy  
NAFTA Regulatory Product Manager, Herbicides  
Regulatory Affairs  
[tamara.murphy@syngenta.com](mailto:tamara.murphy@syngenta.com)

Enclosures



Please read instructions on reverse before completing form.

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 <b>United States</b> <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> <b>Registration</b>	OPP Identifier Number
	<input type="checkbox"/> <b>Amendment</b>	
	<input checked="" type="checkbox"/> <b>Other</b>	

**Application for Pesticide - Section I**

1. Company/Product Number 100-1256	2. EPA Product Manager Ms. Joanne Miller	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Orion™ Herbicide	PM# 23	
5. Name and Address of Applicant (Include ZIP Code) Syngenta Crop Protection, Inc. P. O. Box 18300 Greensboro, NC 27419  <input type="checkbox"/> Check if this is a new address		6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____  Product Name _____

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.).  
 This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

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**Section - III**

<b>1. Material This Product Will Be Packaged In:</b>				<b>2. Type of Container</b>	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
*Certification must be submitted		If "Yes"    No. per Unit Packaging wgt.    Container	If "Yes"    No. per Unit Packaging wgt.    container		
<b>3. Location of Net Contents information</b> <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		<b>4. Size(s) Retail Container</b> 2.56 gallons, 30 gallons, Bulk		<b>5. Location of Label Directions</b> <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
<b>6. Manner in Which Label is Affixed to Product</b> <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Other <u>Pressure Sensitive</u> <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

**Section - IV**

<b>1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)</b>		
Name Tamara Murphy	Title NAFTA Regulatory Product Manager, Herbicides	Telephone No. (Include Area Code) 336-632-2409
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		<b>6. Date Application Received (Stamped)</b>     
2. Signature 	3. Title NAFTA Regulatory Product Manager, Herbicides	
4. Typed Name Tamara Murphy	5. Date April 17, 2008	



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(Booklet)

Orion™

GROUP 2 4 HERBICIDES

Herbicide

For postemergent control of annual broadleaf weeds in wheat (including durum), barley, oats, rye and triticale.

Active Ingredient:

Florasulam: N-(2,6-difluorophenyl)-8-fluoro-5-methoxy(1,2,4) triazolo(1,5-c)pyrimidine-2-sulfonamide .....	0.39%
MCPA: 2-methyl-4-chlorophenoxyacetic acid, 2-ethylhexyl ester .....	42.25%
Other Ingredients:	57.36%
Total:	100.00%

Acid equivalent: MCPA - 27.08% - 2.34 lbs./gal.  
Contains 0.033 lb. of florasulam per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

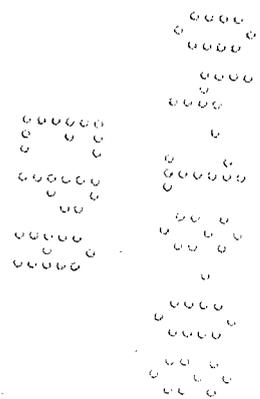
See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-1307

EPA Est. No. 11773-IA-01

SCP 1037A-

2.66 gallons  
Net Contents



<b>FIRST AID</b>	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
<b>HOT LINE NUMBER</b> For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call <b>1-800-888-8372</b>	

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**PRECAUTIONARY STATEMENTS**

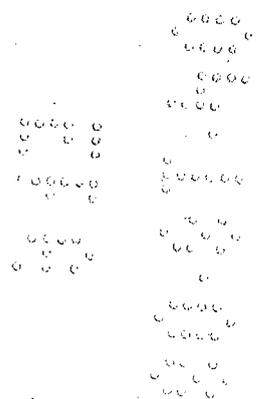
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**Hazards to Humans and Domestic Animals**

Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

**Personal Protective Equipment (PPE)**

Some materials that are chemical resistant to this product are natural rubber  $\geq 14$  mils. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.



**Mixers, loaders, applicators, flaggers and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves when mixing, loading, or using any hand-held equipment
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls**

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

**User Safety Recommendations**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Environmental Hazards**

This pesticide may be toxic to fish, aquatic invertebrates and aquatic plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**Shake Well Before Use - Avoid Freezing.**

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**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. To the extent permitted by applicable law, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable). The requirements in this box apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.**

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

**FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY AND/OR POOR WEED CONTROL.**

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## GENERAL INFORMATION

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Use Orion Herbicide as a postemergence herbicide for the control of annual broadleaf weeds such as chickweed, wild buckwheat, mustards and cleavers in wheat (including spring, winter and durum), barley, oats, rye and triticale not underseeded with legumes.

Orion Herbicide rapidly stops growth of susceptible weeds. However, typical symptoms (discoloration) of dying weeds may not be noticeable for 1 to 2 weeks after application, depending upon growing conditions and weed susceptibility. Degree of control and duration of effect are dependent upon weed sensitivity, weed size, crop competition, growing conditions at and following treatment, and spray coverage.

### Use Precautions and Restrictions

When applying this product in tank-mix combination, follow all applicable use directions, precautions, and limitations on each manufacturer's label.

**Chemigation:** Do not apply this product through any type of irrigation system.

Do not apply Orion Herbicide directly to, or otherwise permit it to come into direct contact with, susceptible crops or desirable plants including alfalfa, edible beans, canola, flowers and ornamentals, lentils, lettuce, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tomatoes, or tobacco. Do not permit spray mists containing Orion Herbicide to drift onto such plants.

For best resistance management stewardship, do not use more than once per season or use in successive years at the same site.

This product has potential to leach. Do not apply excessive irrigation.

Do not apply to crops underseeded with legumes.

### Crop Rotation Intervals

The following rotational crops may be planted at the indicated interval following application of Orion Herbicide.

Numbers in parentheses (-) refer to Specific Crop Rotation Information.

Crop	Rotation Interval (1) (Months)
Barley, oats, wheat, grasses	0.5
Field corn, popcorn, seed corn, sweet corn, sorghum	3
Alfalfa, canola, chickpea, soybean, dry bean, field-pea (dry and succulent), flax, lentil, potato, safflower, sugar beet, sunflower	9
Other crops not listed	12

**Specific Crop Rotation Information:**

- (1) Minimum number of months that must pass before planting other crops after application of Orion Herbicide.

**Avoiding Injurious Spray Drift**

This product can affect broadleaf plants directly through foliage and indirectly by root uptake from treated soil. Do not apply Orion Herbicide directly to, or allow spray drift to come into contact with, broadleaf crops including, but not limited to, alfalfa, canola, beans, cotton, flowers, grapes, lettuce, lentils, mustard, peas, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes, vegetables, or other desirable broadleaf crops or ornamental plants or soil where sensitive crops will be planted the same season. (See Crop Rotation Intervals section.)

Make applications only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure crops, whether dormant or actively growing. When applying Orion Herbicide, use low pressure equipment capable of producing sprays of uniform droplet size with a minimum of fine spray droplets. Under adverse weather conditions, fine spray droplets that do not settle rapidly onto target vegetation may be carried a considerable distance from the treatment area. A drift control or spray thickening agent may be used with this product to improve spray deposition and minimize the potential for spray drift. If used, follow all use recommendations and precautions on the product label.

**Ground Applications:** To minimize spray drift, apply Orion Herbicide in a total spray volume of 8 gallons or more per acre using spray equipment designed to produce large-droplet, low pressure sprays. Refer to the spray equipment manufacturer's recommendations for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Spot treatments should be applied only with a calibrated boom to prevent over application. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

**Aerial Application:** To minimize spray drift, apply Orion Herbicide in a total spray volume of 3 gallons or more per acre. Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high potential for temperature inversion. Spray drift from aerial application can be minimized by applying a coarse spray at spray boom pressure no greater than 30 psi; by using straight-stream nozzles directed straight back; and by using a spray boom no longer than  $\frac{3}{4}$  the rotor or wing span of the aircraft. Spray pattern and droplet size distribution can be evaluated by applying sprays containing a water-soluble dye marker or appropriate drift control agents over a paper tape (adding machine tape). Mechanical flagging devices may also be used.

Do not apply under conditions of a low level air temperature inversion. A temperature inversion is characterized by little or no wind and lower air temperature near the ground than at higher levels. The behavior of smoke generated by an aircraft-mounted device or continuous smoke column released at or near site of application will indicate the direction and velocity of air movement. A temperature inversion is indicated by layering of smoke at some level above the ground and little or no lateral movement.

### **Spray Drift Management**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 90% of rotor diameter.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory. [This information is advisory in nature and does not supersede mandatory label requirements.]

## **Aerial Drift Reduction Advisory**

**Information on Droplet Size:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

### **Controlling Droplet Size**

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**Boom Length:** For some use patterns, reducing the effective boom length to less than 75% of the wingspan or 90% of rotor length may further reduce drift without reducing swath width.

**Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment:** When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and Humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions:** Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

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## MIXING

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### Mixing Orion Herbicide Alone

1. Fill the tank with ½ of the total amount of water.
2. Start agitation.
3. Add the required amount of Orion Herbicide.
4. Continue agitation while filling the spray tank to the required volume.
5. To ensure a uniform spray mixture, continuous agitation is required during application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply mixture immediately after it is prepared.

### Orion Herbicide Applied in Tank-Mix Combination

If a broader spectrum of weed control is needed, Orion Herbicide may be tank mixed with labeled rates of other herbicides provided (1) the tank-mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank-mix product.

### Tank Mixing Precautions

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates for respective products or maximum allowable application rates for any active ingredient in the tank mix.
- Do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment have been adequately cleaned. (See Equipment Cleanout Procedures.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank-Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of Orion Herbicide and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately ½ hour. If the mixture balls-up, forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank-mix combination should not be used.

Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

### Mixing Order for Tank Mixes

1. Fill the spray tank to ¾ of the total spray volume required with water.
2. Start agitation.
3. Add Orion Herbicide and agitate for 2 to 3 minutes
4. After adding Orion Herbicide, add different formulation types in the following order: (1) dry flowables; (2) wettable powders; (3) aqueous suspensions, flowables and liquids. Maintain agitation and add: (4) emulsifiable concentrates; (5) solutions; and (6) adjuvants. Allow time for complete mixing and dispersion after each addition.
5. Finish filling the spray tank. Maintain continuous agitation during mixing and throughout application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply mixture immediately after it is prepared.

If application or agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

### Cleanout Procedures for Spray Equipment

1. Drain any remaining spray mixture from the application equipment.
2. Hose down the interior surfaces of the tank while filling the tank 1/2 full of water.
3. Add household ammonia at a rate of 1 gallon per 100 gallons of water. Recirculate for 5 minutes and spray out part of this mixture for 5 minutes through the boom. Drain tank.
4. Remove all spray nozzles and screens and clean separately.
5. If spray equipment will be used for pesticide application to crops sensitive to Orion Herbicide, steps 1-3 should be repeated. Exterior surfaces of spray equipment should also be thoroughly cleaned.

**Note:** Rinsate may be disposed of on site according to label use directions or at an approved waste disposal facility.

### Weeds Controlled or Suppressed by Orion Herbicide

#### Weeds Controlled

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buckwheat, wild	mustard, blue (purple)
canola, volunteer <sup>1</sup>	mustard, tansy
chamomile, corn	mustard, treacle (bushy wallflower)
chamomile, false (scentless)	mustard, tumble (Jim Hill)
chamomile, mayweed (dogfennel)	mustard, wild
chamomile, wild	pennycress, field
chickweed, common	pigweed, redroot <sup>3</sup>
cleavers (catchweed bedstraw)	pineappleweed
flixweed	prickly lettuce <sup>2</sup>
hempsnettle <sup>3</sup>	ragweed, common
knotweed	shepherdspurse
lambquarters	smartweed (green, ladythumb, Pennsylvania)
London rocket	sunflower, annual <sup>2</sup>
mustard, black	

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#### Weeds Suppressed

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dandelion (seedlings and overwintered rosettes <6 inches in diameter) <sup>3</sup>	sowthistle, annual
filaree, redstem <sup>3</sup>	sowthistle, perennial

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<sup>1</sup>Including all herbicide-tolerant canola varieties.

<sup>2</sup>Up to the 4-leaf stage.

<sup>3</sup>Improved control can be achieved with the addition of 1 oz. ae per acre of MCPA ester (2.2 fl. oz. per acre of a 3.7 lb. ae per gallon of product).

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## APPLICATION DIRECTIONS

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### Application Timing

Apply Orion Herbicide early postemergence to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, or following time of application may reduce weed control and increase the risk of crop injury at all stages of growth. **Only weeds that have emerged at the time of application will be controlled.** If foliage is wet at the time of application, control may be decreased. Applications of Orion Herbicide are rainfast within 4 hours after application.

### Spray Coverage

Use sufficient spray volume to provide thorough coverage and a uniform spray pattern. Do not broadcast apply in less than 3 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 gallons or more per acre. As vegetative canopy and weed density increase, spray volume should be increased to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under Avoiding Injurious Spray Drift.

### Adjuvants

Generally this product does not require the use of an adjuvant to achieve satisfactory weed control. An adjuvant may be added to optimize herbicidal activity when applications are made at lower use rates or lower carrier volumes; under conditions of cool temperature, low relative humidity or drought; or when a tank-mix partner recommends the use of an adjuvant.

### Wheat (Including Durum), Barley, Oats, Rye, Triticale

Apply 17 fl. oz. of Orion Herbicide per acre to actively growing wheat (including spring, winter and durum), barley, oats, rye and triticale from the 3-leaf crop growth stage up to the joint stage (Zadoks scale 31). Apply when weeds are actively growing. Only weeds emerged at the time of treatment will be controlled. Best results are obtained from application made to seedling weeds. A later application when the crop is between the jointing and boot stage of growth may be used to control later emerging weeds; however, do not apply unless the risk of injury is acceptable. Do not apply after the boot stage.

Warm, moist growing conditions promote active weed growth and enhance the activity of Orion Herbicide by allowing maximum foliar uptake and contact activity. Weeds hardened off by cold weather or drought stress may not be adequately controlled or suppressed and regrowth may occur. For best results, ensure thorough spray coverage of target weeds.

**Tank Mixtures for Wheat (Including Durum):** Orion Herbicide may be applied in tank-mix combination with labeled rates of other products registered for postemergence application in wheat. See Tank Mixing Precautions under Mixing. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

### **Restrictions**

- Do not apply more than 17 fl. oz. of Orion Herbicide per acre per growing season.
- Livestock may be grazed on treated crops 7 days following application.
- **Preharvest Interval:** Do not apply within 60 days of crop harvest.

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## **STORAGE AND DISPOSAL**

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Do not contaminate water, food, or feed by storage and disposal.

### **Pesticide Storage**

Store in original container only. Storage below 14°F will cause the product to freeze. If product freezes, bring to room temperature and agitate before use.

## **NONREFILLABLE CONTAINERS**

### **Container Reuse**

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

## **REFILLABLE CONTAINERS**

### **Container Reuse**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

### **Container Disposal**

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **Pesticide Disposal**

Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

### **Bulk/Mini-Bulk**

When this container is empty replace cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact Syngenta Crop Protection, Inc. at 1-800-888-8372. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.**

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For non-emergency (e.g., current product information), call  
Syngenta Crop Protection at 1-800-334-9481

Manufactured for:  
Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, North Carolina 27419-8300  
[www.syngenta-us.com](http://www.syngenta-us.com)

SCP 1037A-

(Base Label)

Orion™

**GROUP 2 4 HERBICIDES**

**Herbicide**

**For postemergent control of annual broadleaf weeds in wheat (including durum), barley, oats, rye and triticale.**

**Active Ingredient:**

Florasulam: N-(2,6-difluorophenyl)-8-fluoro-5-methoxy (1,2,4) triazolo(1,5-c)pyrimidine-2-sulfonamide .....	0.39%
MCPA: 2-methyl-4-chlorophenoxyacetic acid, 2-ethylhexyl ester .....	42.25%
Other Ingredients:	57.36%
<b>Total:</b>	<b>100.00%</b>

Acid equivalent: MCPA - 27.08% - 2.34 lbs./gal.  
Contains 0.033 lb. of florasulam per gallon.

See additional precautionary statements and directions for use inside booklet.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

EPA Reg. No. 100-1037

EPA Est. No. 11773-IA-01

SCP 1037A-

2.66 gallons  
Net Contents

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

<b>FIRST AID</b>	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
<b>HOT LINE NUMBER</b>	
For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call <b>1-800-888-8372</b>	

#### Environmental Hazards

This pesticide may be toxic to fish, aquatic invertebrates and aquatic plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

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**STORAGE AND DISPOSAL**

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SCP 1037A-

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